

What is claimed is:

- 1 1. A rail positioning device for use with a retractable bumper assembly that
2 includes an elongated rail movable between a retracted position and an
3 elevated position supported by a plurality of rail support members to prevent
4 bowling balls from entering a bowling lane gutter adjacent the retractable
5 bump assembly when the elongated rail is in the elevated position wherein
6 said rail positioning device comprises a rail positioning assembly disposed in
7 operational relationship relative to a rail positioning actuator, said rail
8 positioning assembly and said rail positioning actuator each movable between
9 a retracted position and an extended position such that when the rail
10 positioning assembly is moved from the retracted to the extended position by
11 the rail positioning actuator moving from the retracted position to the
12 extended position the rail positioning assembly engages the elongated rail to
13 move the elongated rail from the retracted position to the elevated position to
14 prevent a bowling balls from entering the adjacent gutter.
- 1 2. The rail positioning device of Claim 1 wherein said rail positioning assembly
2 comprises a rail positioning member longitudinally movable between a
3 retracted position and an extended position and a rail positioning element
4 rotatably movable between a retracted position and an extended position
5 disposed to engage the elongated rail.
- 1 3. The rail positioning device of Claim 2 wherein said rail positioning actuator
2 comprises an actuator element longitudinally movable between a retracted

3 and an extended position to move said rail positioning member from the
4 retractable and the extended position to move said rail positioning element
5 from the retracted position and the extended position as the actuator element
6 moves from the retracted position to the extended position to move the
7 elongated rail from the retracted position to the elevated position to prevent a
8 bowling ball from entering the adjacent gutter.

1 4. The rail positioning device of Claim 3 wherein said rail positioning member
2 includes a camming surface disposed to engage said rail positioning element.

1 5. The rail positioning device of Claim 4 wherein said rail positioning member
2 further includes an inclined surface disposed to engage said rail positioning
3 element when said rail positioning member and said rail positioning element
4 are each in the extended position to maintain the elongated rail in the
5 elevated position.

1 6. The rail positioning device of Claim 5 wherein said rail positioning element
2 includes a camming surface to engage the elongated rail.

1 7. The rail positioning device of Claim 4 wherein said rail positioning element
2 includes a camming surface to engage the elongated rail.

1 8. The rail positioning device of Claim 3 wherein said rail positioning member
2 further includes an inclined surface disposed to engage said rail positioning
3 element when said rail positioning member and said rail positioning element

4 are each in the extended position to maintain the elongated rail in the
5 elevated position.

1 9. The rail positioning device of Claim 8 wherein said rail positioning element
2 includes a camming surface to engage the elongated rail.

1 10. The rail positioning device of Claim 3 wherein said rail positioning actuator
2 further includes an actuator element positioning device to move said actuator
3 element between the retracted position and the extended position.

1 11. The rail positioning device of Claim 10 wherein said actuator element
2 comprises an elongated shaft having one end portion coupled to said rail
3 positioning member and an actuator piston coupled to the opposite end
4 portion thereof and said actuator element positioning device comprises a
5 pressurized fluid cylinder.

1 12. The rail positioning device of Claim 1 wherein said rail positioning assembly
2 includes a rail positioning element rotatably movable between a retracted
3 position and an extended position disposed to engage the elongated rail.

4 13. The rail positioning device of Claim 12 wherein said rail positioning actuator
5 includes an actuator element longitudinally movable between a retracted and
6 an extended position to selectively move said rail positioning assembly from
7 the retractable and the extended position which, in turn, moves said rail
8 positioning element from the retracted position and the extended position as
9 said actuator element moves from the retracted position to the extended

10 position to move the elongated rail from the retracted position to the elevated
11 position to prevent a bowling ball from entering the adjacent gutter.

1 14. The rail positioning device of Claim 13 wherein said rail positioning element
2 includes a camming surface to engage the elongated rail.

1 15. The rail positioning device of Claim 14 wherein said actuator element
2 comprises an elongated shaft having one end portion and an actuator piston
3 coupled to the opposite end portion thereof and said actuator element
4 positioning device comprises a pressurized fluid cylinder.

1 16. The rail positioning device of Claim 13 wherein said rail positioning assembly
2 further includes a rail positioning member longitudinally movable between a
3 retracted position and an extended position.

1 17. The rail positioning device of Claim 16 wherein said rail positioning member
2 includes a camming surface disposed to engage said rail positioning element.

1 18. The rail positioning device of Claim 17 wherein said rail positioning member
2 further includes an inclined surface disposed to engage said rail positioning
3 element when said rail positioning member and said rail positioning element
4 are each in the extended position to maintain the elongated rail in the
5 elevated position.

1 19. The rail positioning device of Claim 18 wherein said rail positioning element
2 includes a camming surface to engage the elongated rail.

1 20. The rail positioning device of Claim 17 wherein said rail positioning element
2 includes a camming surface to engage the elongated rail.

1 21. The rail positioning device of Claim 20 wherein said rail positioning member
2 further includes an inclined surface disposed to engage said rail positioning
3 element when said rail positioning member and said rail positioning element
4 are each in the extended position to maintain the elongated rail in the
5 elevated position.